Рассматривается проблема сохранения глобальной разрешимости задачи (1) при возмущении управлений. Показывается, как методами [1] получить конструктивные достаточные условия сохранения глобальной разрешимости. Рассматриваются конкретные примеры применения этих условий.

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CONSTRUCTION OF BLACK HOLES AND WORMHOLES IN BRANE-WORLD

We use the general solution to the trace of the 4-dimensional Einstein equations for static, spherically symmetric configurations as a basis for finding a general class of black hole metrics, containing one arbitrary function $g_{\theta\theta} = r^2(A)$. Under certain reasonable restrictions, black hole and wormhole metrics are found with or without matter which, depending on the boundary conditions, can be asymptotically flat or have any other prescribed asymptotic. It is shown that our procedure generically leads to families of globally regular black holes with a Kerr-like global

structure and to symmetric wormholes. Black hole horizons in space-times with zero scalar curvature are shown to be either simple or double. The same is generically true for horizons inside a matter distribution, but in special cases there can be horizons of any order. A few simple examples are discussed. A natural application of the above results is the brane world concept, in which the trace of the 4D gravity equations is the only unambiguous equation for the 4D metric, and its solutions can be continued into the 5D bulk according to the embedding theorems.

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A DEGENERATE CONICS CONSTRUCTION FROM CONTROL POINTS OF A PLANAR CUBIC BÉZIER CURVE

Conic sections play an important role in computational geometry, computer graphics and other fields related with CAGD and their useful geometric properties have been and are still being discovered (1).

The aim of this paper is to construct a family of conics from five points of a planar cubic Bézier curve, four of them are the control points of a cubic Bézier curve and the fifth one is any point on this curve and research the degenerate cases.